ORDER NO. TD94010480C2

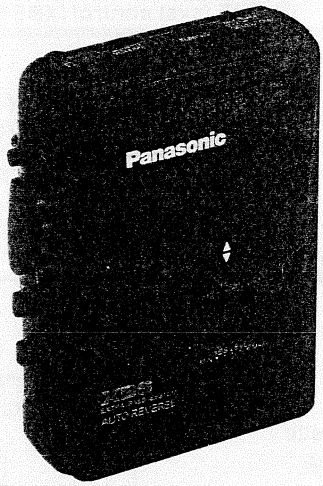
5850

Service Manual

Radio Cassette

RQ-V161

Stereo Radio Cassette Player



Colour

(K)..... Black Type

Area

Suffix for Model No.	Areas	Colour
[E]	Europe.	(K)
[EG]	Germany and Italy.	

■ SPECIFICATIONS CATIONS

General:

Power Requirement:	Battery; 3V (Two "AA" size, R6/LR6 batteries)
	AC; with optional AC adaptor RP-AC31
Power Output:	40mW (20mWx2)···RMS (max.)
Input:	DC IN; 3V (⊖-C-⊕)
Output:	Headphones; 16Ω, φ3.5
Dimensions:	85.4(W)x120.1(H)x37.2(D)mm
Weight:	172g without batteries

Radio Section:

Radio Frequency Range:	FM; 87.5~108MHz
	AM; 520~1610kHz
Intermediate Frequency:	FM; 10.7MHz
	AM; 459kHz
Sensitivity:	FM; 3.16μV/0.5mW output (–3dB Limit, Sens)
	AM; 100μV/m/0.5mW output

Tape Deck Section:

Frequency Response:	60~14000Hz (Normal, CrO_2/Metal)
Tape Speed:	4.8cm/s
Program Time:	1 hour with C-60 cassette tape
Track System:	4-track, 2-channel, stereo playback

Notes:

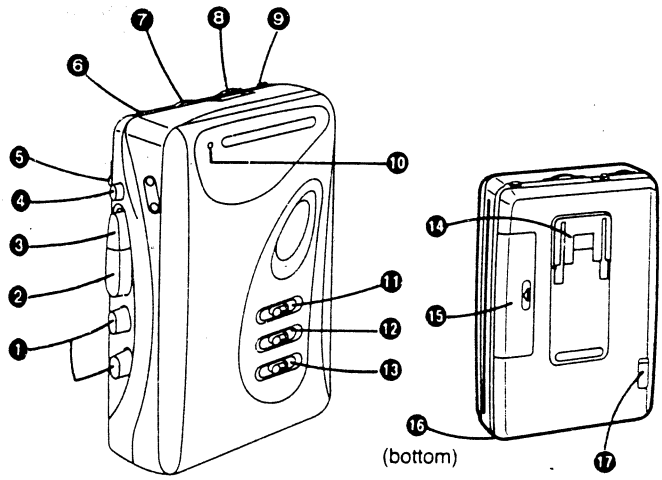
1. Weights and dimensions shown are approximate
2. Design and specifications are subject to change without notice.

Panasonic

5850

RQ-V161

■ LOCATION OF CONTROLS



❶ **Fast buttons (FAST ◀◀ • ▶▶)**
❷ **Play button (PLAY ◀ ▶)**
❸ **Stop button (STOP ■)**
❹ **Direction Selector (DIR)** (REV/FWD)
❺ **Band/FM MODE** (FM ST/FM/AM)
❻ **Headphones jack** (∩) 16 Ω, φ3.5
❼ **Volume control (VOLUME)**
❽ **Tuning control (TUNING)**
❾ **Function selector (SELECTOR)** (RADIO/TAPE OFF)
❿ **FM stereo indicator (FM ST)**
⓫ **Treble control (TREBLE)**
⓬ **Bass control (BASS)**
⓭ **XBS level control (XBS LEVEL)**
⓮ **Clip receptacle**
⓯ **Battery compartment**
⓰ **DC input jack (DC IN 3 V ⊖-⊂-⊕)**
⓱ **Tape Selector (NOR/CrO_2 MTL)**

■ DISASSEMBLY INSTRUCTIONS

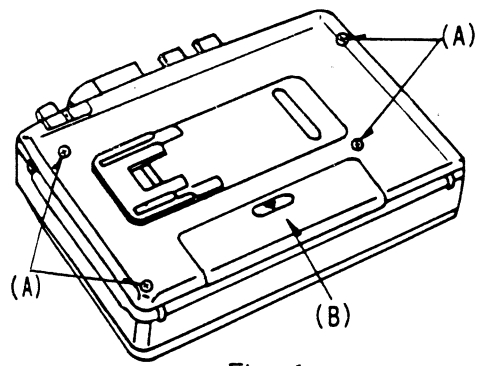


Fig. 1

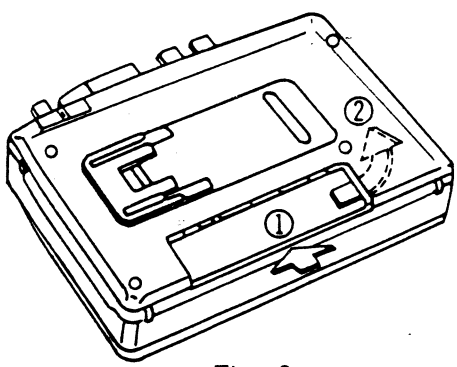


Fig. 2

● **Removal of the Rear Cabinet**

1. Remove the screws (A) (2×10)mm×4
2. Open the battery cover (B)×1
3. Remove the rear cabint in the direction of arrow ① & ②.

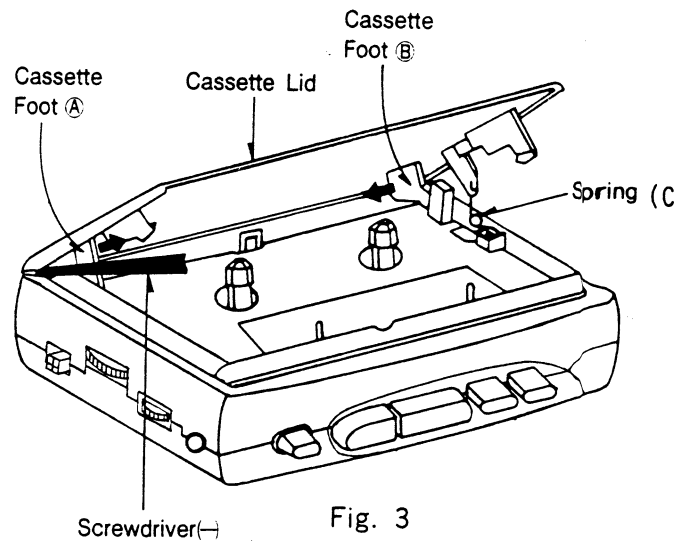


Fig. 3

● **How to Removal of the Cassette Lid**

Note: Be careful not to break cassette foots Ⓐ and Ⓑ when removing the cassette lid.

1. Open the cassette lid.
2. With a screwdriver, push cassette foot Ⓐ to the right as shown in Fig. 3, and then pull out the right side of the cassette lid.
3. Push cassette foot Ⓑ to the left and then pull out the cassette lid.
4. Remove the spring. (C)×1.

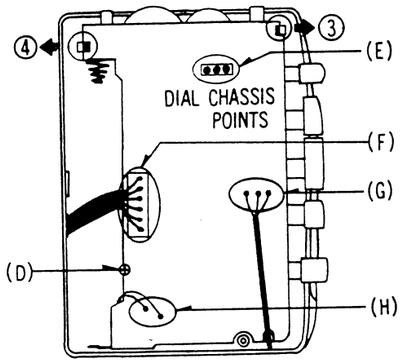


Fig. 4

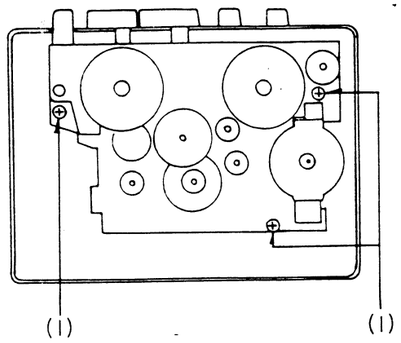


Fig. 5

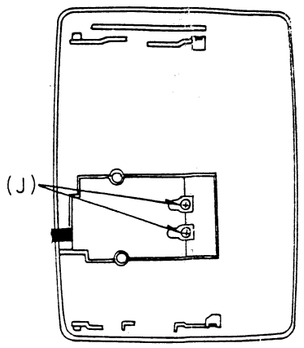


Fig. 6

●Removal of the Dial Chassis and Circuit Board (Fig. 4.).

1. Remove the chassis screw (D) (2×16)mm×1.
2. Disconnect the solder (E).
3. Remove the dial chassis in the direction of arrow ③, ④.
4. Remove the solder (F), (G), (H) from flexible PC board.

●Removal of the Front Cabinet and Mechanism (Fig. 5)

1. Remove the screws (I) (2×6)mm×3.
2. Remove the front cabinet & mechanism.

●Removal of the Cassette Holder & Graphic Equalizer PC board. (Fig. 6)

1. Remove the screws (J) (1.4×3.5)mm×2.

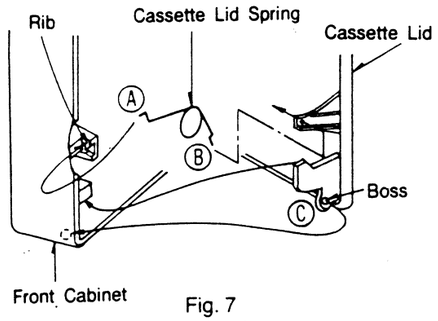
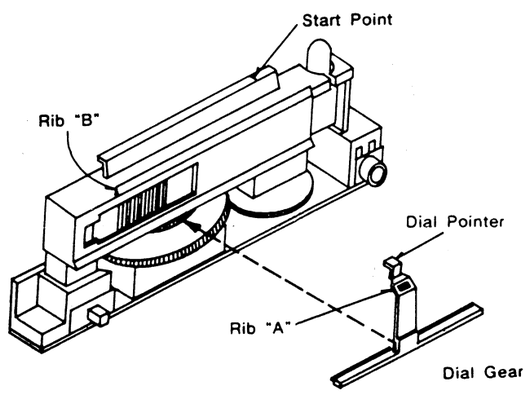


Fig. 7

●How to Replace the Cassette Lid Spring (Fig. 7)

1. Fit Part Ⓐ on the rib of the front cabinet.
2. Insert part Ⓑ in the hole in cassette lid.
3. Fit the boss Ⓒ in the front cabinet.

●TO Removal of Tuning Gear



1. Firstable turn the tuning shaft of the variable capacitor counter clockwise, to the end.
2. Second, before pointer be installed on chassis, pointer must be setted as shown.
3. Thire to in stalle pointer, inserted pointer by rib "A" to rib "B" of chassis.
4. Set the dial pointer to start point.

■MEASUREMENTS AND ADJUSTMENTS

●ADJUSTMENT INSTRUCTION

READ CAREFULLY BEFORE ATTEMPTING ADJUSTMENT

1. Set volume control to maximum.
2. Set band switch to AM or FM ST.
3. Set selector switch to radio.
4. Set power source voltage to 3 V DC.
5. Output of signal generator should be no higher than necessary to obtain an output reading.
6. Make sure head are clean.
7. Make sure capstan and pinch roller are clean.

●TUNER SECTION

AM ADJUSTMENT

	BAND	SIGNAL GENERATOR or SWEEP GENERATOR CONNECTIONS	SIGNAL GENERATOR or SWEEP GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR (ELECTRONICS VOLTMETER or SCOPE)	ADJUSTMENT	REMARKS
		AM-IF ALIGNMENT					
(1)	AM	Fashion a loop of several turns of wire and radiate the signal into the loop antenna of the receiver.	459kHz 30% Mod. at 400 Hz	Point of non-interference. (on/ about 600kHz)	Headphones Jack (16Ω) (Fabricate the plug as shown in Fig.3. and then connect the lead wires of the plug to the measuring instrument.	T1 (AM IFT)	Adjust for maximum output.
		AM-RF ALIGNMENT					
(2)	AM	〃	511 kHz···[E] only 516kHz···[EG] only	Tuning capacitor fully closed.	〃	L4 (AM OSC Coil)	Adjust for maximum output.
(3)	AM	〃	1650kHz···[E] only 1635kHz···[EG] only	Tuning capacitor fully open.	〃	CT4 (AM OSC Trimmer)	〃
(4)	AM	〃	550kHz	Tune to signal.	〃	(＊1) L1 (AM ANT Coil)	Adjust for maximum output. Adjust L1 by moving coil bobbin along ferrite core.
(5)	AM	〃	1,500kHz	〃	〃	CT1 (AM ANT Trimmer)	Adjust for maximum output. Repeat steps (2)~(5).

(＊1) Cement antenna bobbin with wax after completing alignment.

FM ALIGNMENT

	BAND	SIGNAL GENERATOR or SWEEP GENERATOR CONNECTIONS	SIGNAL GENERATOR or SWEEP GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR (ELECTRONICS VOLTMETER or SCOPE)	ADJUSTMENT	REMARKS
		FM-RF ALIGNMENT					
(1)	FM	Connect to test point ▼ through FM dummy antenna. Negative side to test point ▼.	86.2MHz···[E] only 87.4MHz···[EG] only	Variable capacitor fully closed.	Headphones Jack (16Ω) (Fabricate the plug as shown in Fig.3. and then connect the lead wires of the plug to the measuring instrument.	L3 (FM OSC Coil)	(＊2) Adjust for maximum output.
(2)	FM		109.3MHz···[E] only 108.3MHz···[EG] only	Variable capacitor fully open.		CT3 (FM OSC Trimmer)	〃
(3)	FM		90MHz	Tune to signal.		L2(FM ANT Coil)	〃
(4)	FM		106MHz	〃		CT2 (FM ANT Trimmer)	(＊2) Adjust for maximum output. Repeat steps (3)~(6).

(＊2) Three output responses will be present; proper tuning is the center frequency.

●TAPE DECK SECTION

ITEM	INPUT	MEASUREMENT POINT	ADJUSTMENT POINT	PROCEDURE
Azimuth	QZZCFM (8kHz, −20dB)	Headphones Jack (16Ω) (Fabricate the plug as shown in Fig. 3 and then connect the lead wires of the plug to the measuring instrument.	Azimuth adjustment screw (Refer to Fig. 2)	Adjust the azimuth adjustment screw during repeated forward and reverse playback to obtain the maximum head azimuth allgnment with both channels equal. Then screw-lock the adjustment in place.
Tape speed	QZZCWAT (3kHz, −10 dB)		VR2 (Refer to Fig. 1)	Playback the central part of the tape and adjust VR2 so that the tape speed is as follows. 3000±60Hz (Forward & Reverse)

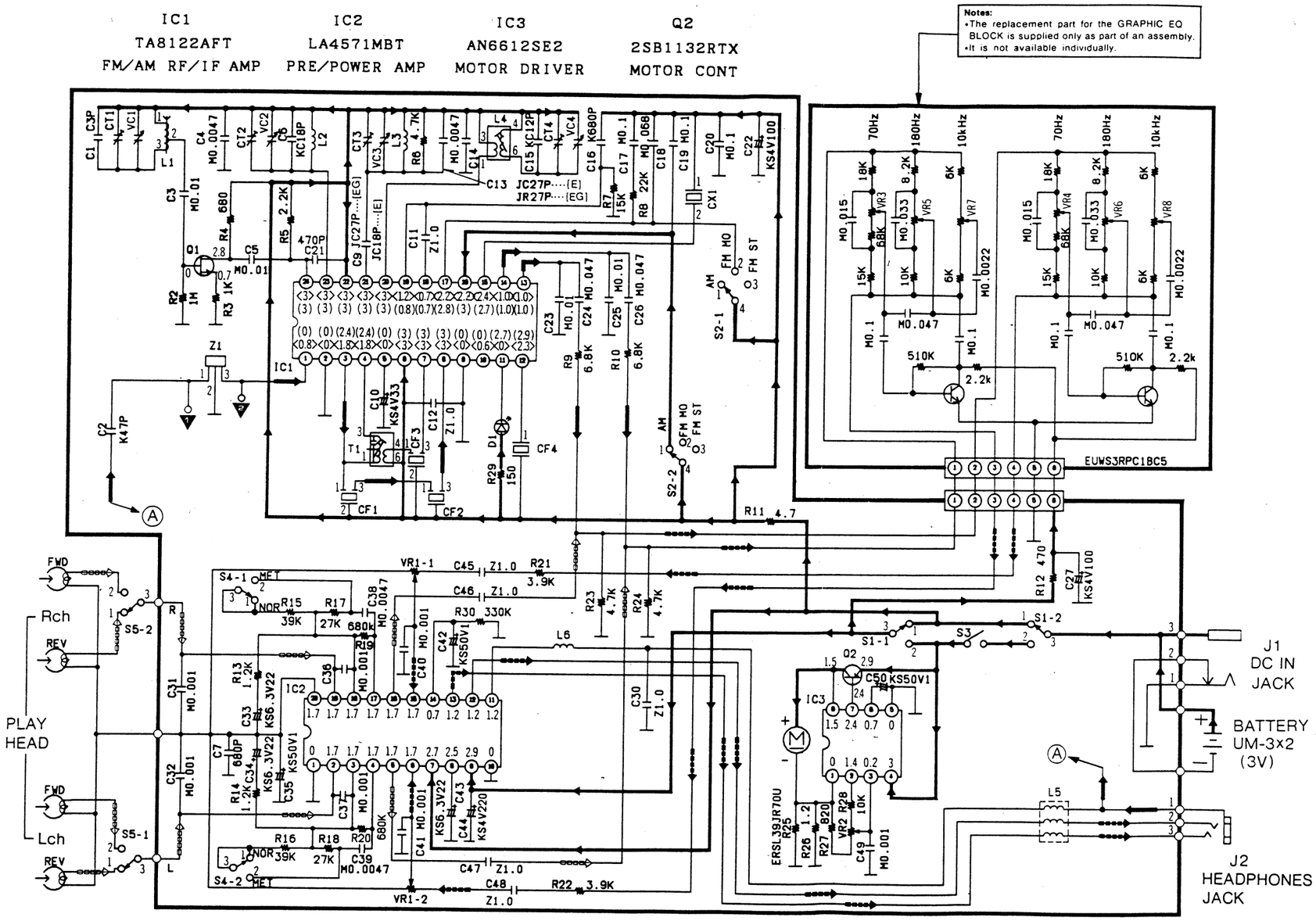
■SCHEMATIC DIAGRAM

IC1 TA8122AFT FM/AM RF/IF AMP

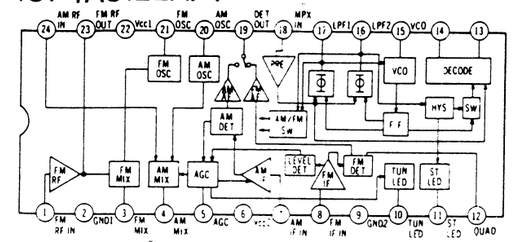
IC2 LA4571MBT PRE/POWER AMP

IC3 AN6612SE2 MOTOR DRIVER

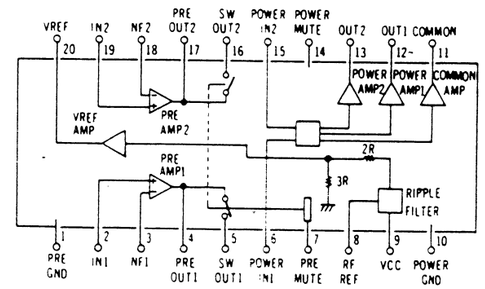
Q2 2SB1132RTX MOTOR CONT



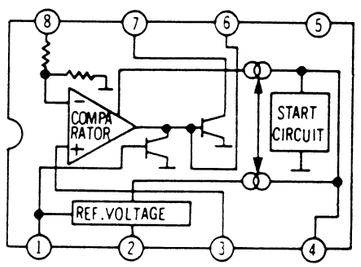
IC1 TA8122AFT

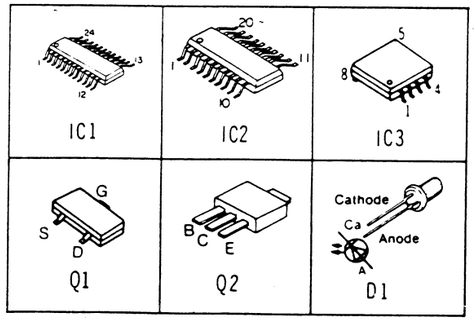


IC2 LA4571MBT



IC3 AN6612SE2

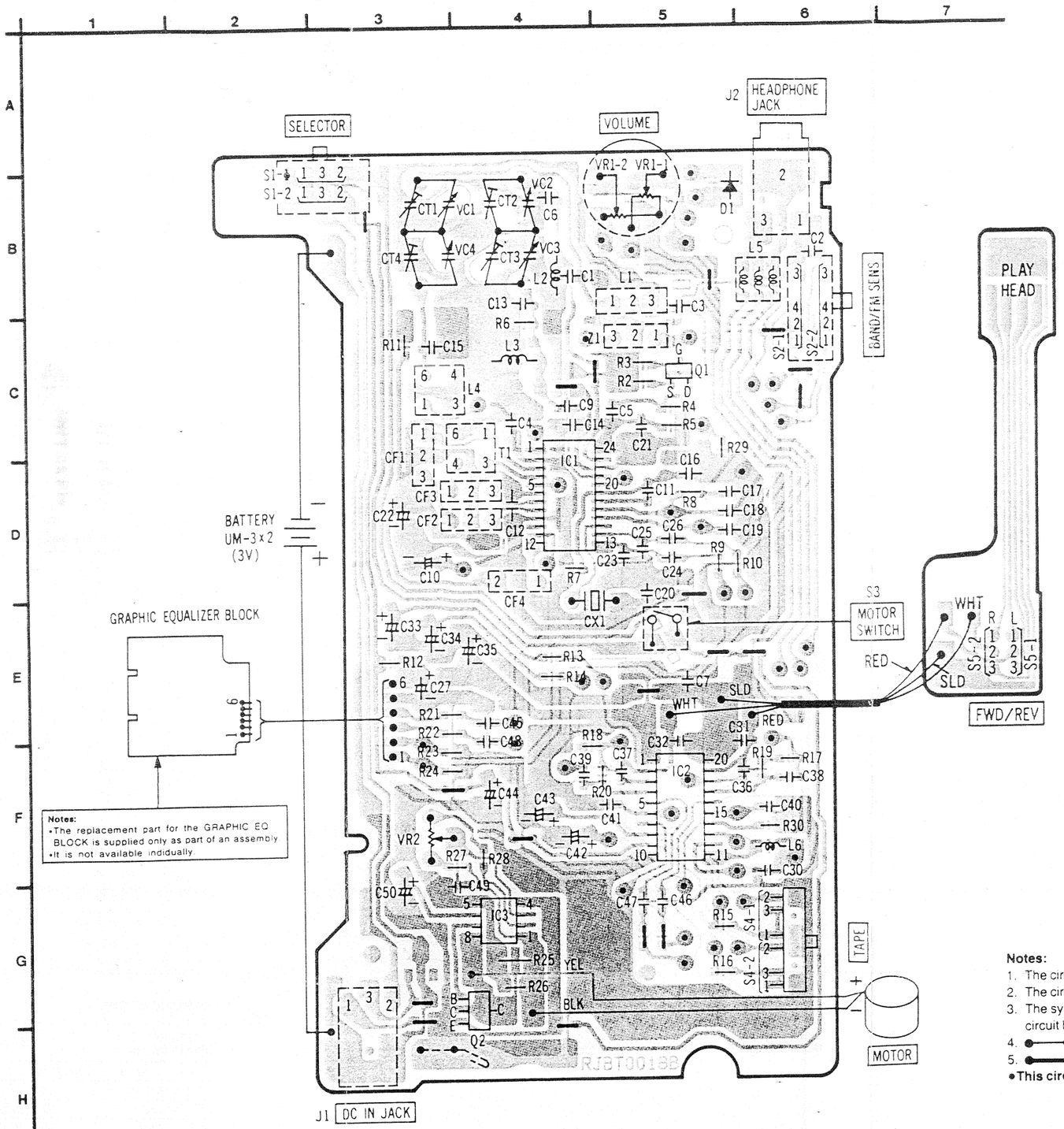




Notes:

1. S1-1, S1-2: Function switch in "RADIO" position. (1···RADIO, 2···TAPE)
2. S2-1～S2-2: Band select switch in AM position. (1···AM, 2···FM MONO, 3···FM ST.)
3. S3: Motor switch in "OFF" position.
4. S4-1, S4-2: Tape selector switch in "NORMAL". position. (1···Normal, 2···Metal)
5. S5-1, S5-2: FWD/REW select switch in "REV" position. (1···REV, 2···FWD)
6. VR1-1, 1-2: Volume control VR.
7. VR2: Tape speed adjustment VR.
8. VR3～8: Graphic Equalizer VR (70Hz/200Hz/10kHz)
   VR3, 4: 70Hz (XBS LEVEL Control)
   VR5, 6: 220Hz (BASS Control)
   VR7, 8:10kHz (TREBLE Control)
9. The mark (▼) shows test point e.g.▼1=test point 1.
10. DC voltage measurement are taken with electronics voltmeter from negative terminal of battery.
    < >···FM position, ( )···AM position.
    No mark·····Playback position,
11. +B Voltage Line.
    Playback Signal.
    FM Signal.
    Playback and Radio Signal.
12. Battery current: Volume minimum output (Radio)····· 40mA
    Volume maximum output (Radio)····· 60mA
    Volume minimum output (Tape)·····160mA
    Volume maximum output (Tape)·····190mA
    (Radio, 74dB 30% Modulation
    Tape, 315 Hz 0dB tape playback)

CIRCUIT BOARD AND WIRING CONNECTION DIAGRAM



REPLACEMENT PARTS LIST

T Indicates parts that are supplied by TAMACO.

Ref. No.	Parts No.	Parts Name & Description
INTEGRATED CIRCUIT, TRANSISTORS AND DIODES		
IC1 T	TA8122AFT	I.C. FM RF AMP
IC2 T	LA4571MBT	I.C. PRE/POWER AMP
IC3	AN6612SE2	I.C. MOTOR DRIVE
Q1	2SK543DTW	Transistor
Q2	2SB1132RTX	Transistor
D1 T	EL1334HD	L.E.D.
COILS AND TRANSFOMRERS		
L1 T	REKT0003-L	Ferrite Bar Antenna Ass'y (Withe Antenna Holder)
L2	RLO4Y15	Antenna Coil FM
L3 T [E]	RLO4Y19-2	Oscillator Coil FM
L3 T [EG]	RLO4A001-Z	Oscillator Coil FM
L4 T	RLO2A010M-M	Oscillator Coil AM
L5 T	RLQZ010KM-M	RF Choke Coil
L6 T	RLJFA1R0KT-D	Coil
T1 T	RLI2A37M-M	I.F.T. AM
VARIABLE RESISTOR		
VR1 T	RVV2H3A54-ZA	V.R. Volume Control
VR2 T	EVNDXAA02B32	V.R. Tape Speed Control
VARIABLE CAPACITOR		
VC1-4 T [E]	RCV4PCT6R-MT	Tuning Capacitor W/Trimmer Capacitor (CT1-4)
VC1-4 T [EG]	RCV4PCT6R1-M	Tuning Capacitor W/Trimmer Capacitor (CT1-4)
CERAMIC FILTER		
CF1,2 T	RLFFETWL05ZD	Ceramic Filter FM
CF3	RVFPFA459A	Ceramic Filter AM
CF4 T	RLFDFT08ZD	Ceramic Filter FM
CX1 T	RSXZ456KM05	Ceramic Crystal FM
COMPONENT COMBINATION		
Z1	RCRBMT002-H	Component Combination
SWITCHES		
S1 T	RSS2B54UA-K	SW. Band
S2	ESD11H230	SW. FUNCTION
S3 T	RSH1A021-I	SW. MOTOR
S4 T	RSS2B013-A	SW. Slide
S5 T	RFA112ZA	SW. FWD/REV
JACKS		
J1	RJJ4302-C	DC IN Jack
J2	RJJD3S5ZB-C	Headphones Jack
GRAPHIC EQUALIZER		
E1 T	EUWS3RPC1BC5	Graphic EQ Ass'y

RESISTORS & CAPACITORS PARTS LIST

T Indicates parts that are supplied by TAMACO

Ref. No.	Parts No.	Ref. No.	Parts No.
RESISTORS		**CAPACITORS**	
R1	ERJ6GEYJ470V	C2	ECUV1H470KCN
R2	ERJ6GEYJ105V	C3,5	ECUV1H103MBN
R3	ERJ6GEYJ102V	C4,14, 38,39	ECUV1H472MBN
R4	ERJ6GEYJ681V		
R5	ERJ6GEYJ222V	C6	ECUV1H220KCN
R6,23,24	ERJ6GEYJ472V	C7,16	ECUV1H681KBN
R7	ERJ6GEYJ560V	C9 [E]	ECUV1H180JCN
R8	ERJ6GEYJ223V	C9 [EG]	ECUV1H270JCN
R9,10	ERJ6GEYJ682V	C10	ECEA0GKS3301
R11	ERJ6GEYJ4R7V	C11,30,45, 46,47,48	ECUVNC105ZFN
R12	ERJ6GEYJ471V	C12	ECUVNC105ZFM
R13,14	ERJ6GEYJ122V	C13 [E]	ECUV1H270JCN
R15,16	ERJ6GEYJ393V	C13 [EG]	ECUV1H270JRN
R17,18	ERJ6GEYJ273V	C15	ECUV1H050CCN
R19,20	ERJ6GEYJ684V	C17,19,20	ECUV1C104MBN
R21,22	ERJ6GEYJ392V	C18	ECUV1C683MBN
		C21	ECUV1H471KBN
R25 T	ERSL39JR70U	C22,27	ECEA0GKS101I
R26 T	ERJ6GEYJ1R2V	C23,25	ECUV1E103MBN
R27	ERJ6GEYJ821V	C24,26,	ECUV1C473MBN
R28	ERJ6GEYJ151V	C31,32, 40,41,49	ECUV1H102MBN
R29	ERJ6GEYJ334V	C33,34,43	ECEA0JKS2201
R30	ERJ6GEYJ103V	C35,42,50	ECEA1HKS010
CHIP JUMPERS		C36,37	ECUV1H101KCN
RJ1-16	ERJ6GEY0R00V	C44	ECEA0GKS2211

NOTES:

BLK.....Black	ORG.....Orange
BLU.....Blue	PNK.....Pink
BRN.....Brown	RED.....Red
GRY.....Gray	SLD.....Shield Wire
GRN.....Green	VLT.....Violet
L. BLU....Light Blue	WHT.....White
NIL.....No Color Mark	YEL.....Yellow

Notes:

1. The circuit shown in ( ) on the conductor indicates printed circuit on the back side of the printed circuit board.
2. The circuit shown in ( ) on the conductor indicates printed circuit on the front side of the printed circuit board.
3. The symbols (●) shown in the circuit board indicate connection points between conductors on the front side and back side of the circuit board.
4. ●——●: Chip resistor
5. ●——●: Chip jumper

•This circuit board diagram may be modified at any time with the development of new technology.

• ALIGNMENT POINTS

Please refer to the Circuit Board and Wiring Connection Diagram to locate the test points.

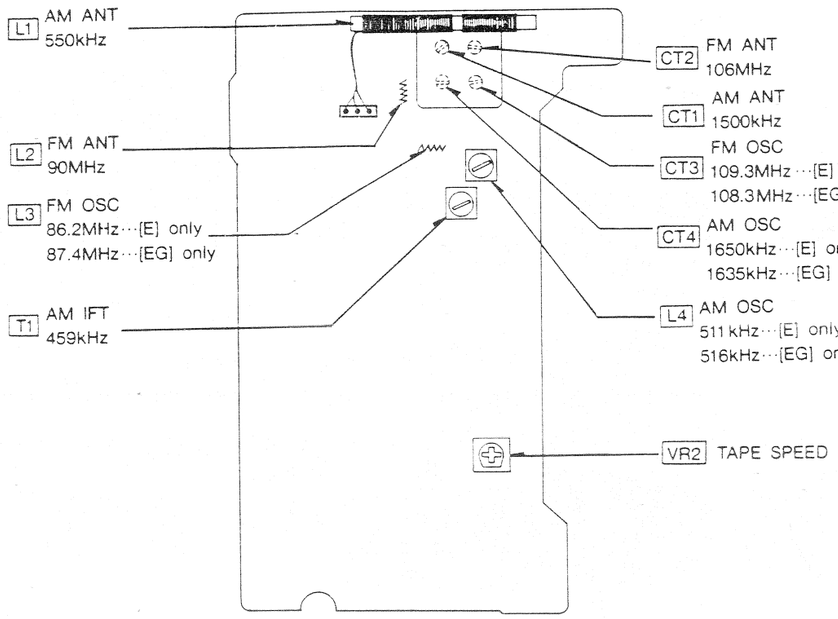

L1 AM ANT 550kHz
L2 FM ANT 90MHz
L3 FM OSC 86.2MHz···[E] only 87.4MHz···[EG] only
T1 AM IFT 459kHz
CT2 FM ANT 106MHz
CT1 AM ANT 1500kHz
CT3 FM OSC 109.3MHz···[E] only 108.3MHz···[EG] only
CT4 AM OSC 1650kHz···[E] only 1635kHz···[EG] only
L4 AM OSC 511kHz···[E] only 516kHz···[EG] only
VR2 TAPE SPEED

Fig. 1

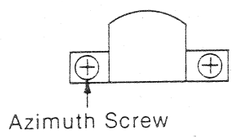


Fig. 2

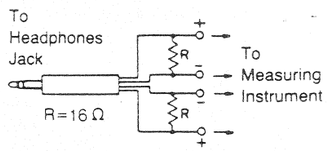
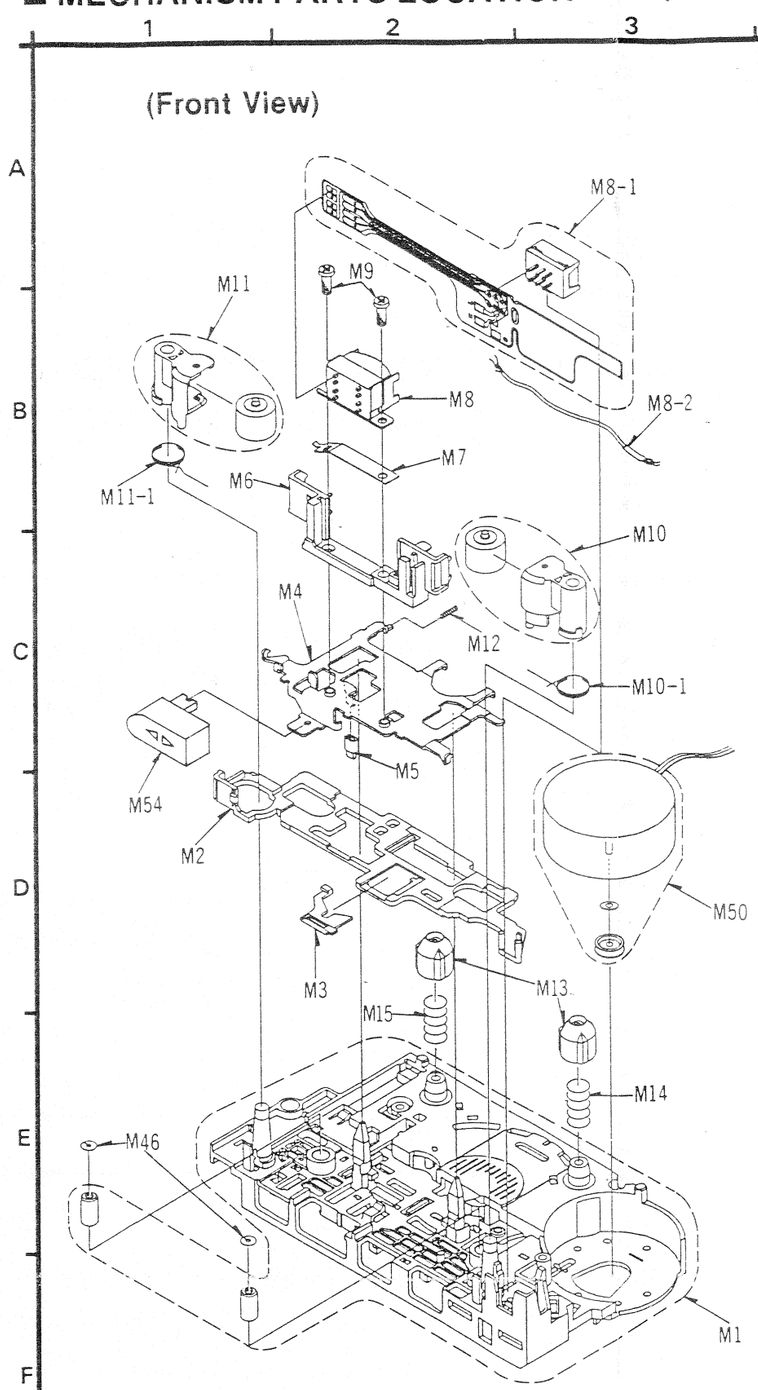


Fig. 3

■ MECHANISM PARTS LOCATION



■ REPLACEMENT PARTS LIST

T Indicates parts that are supplied by TAMACO.

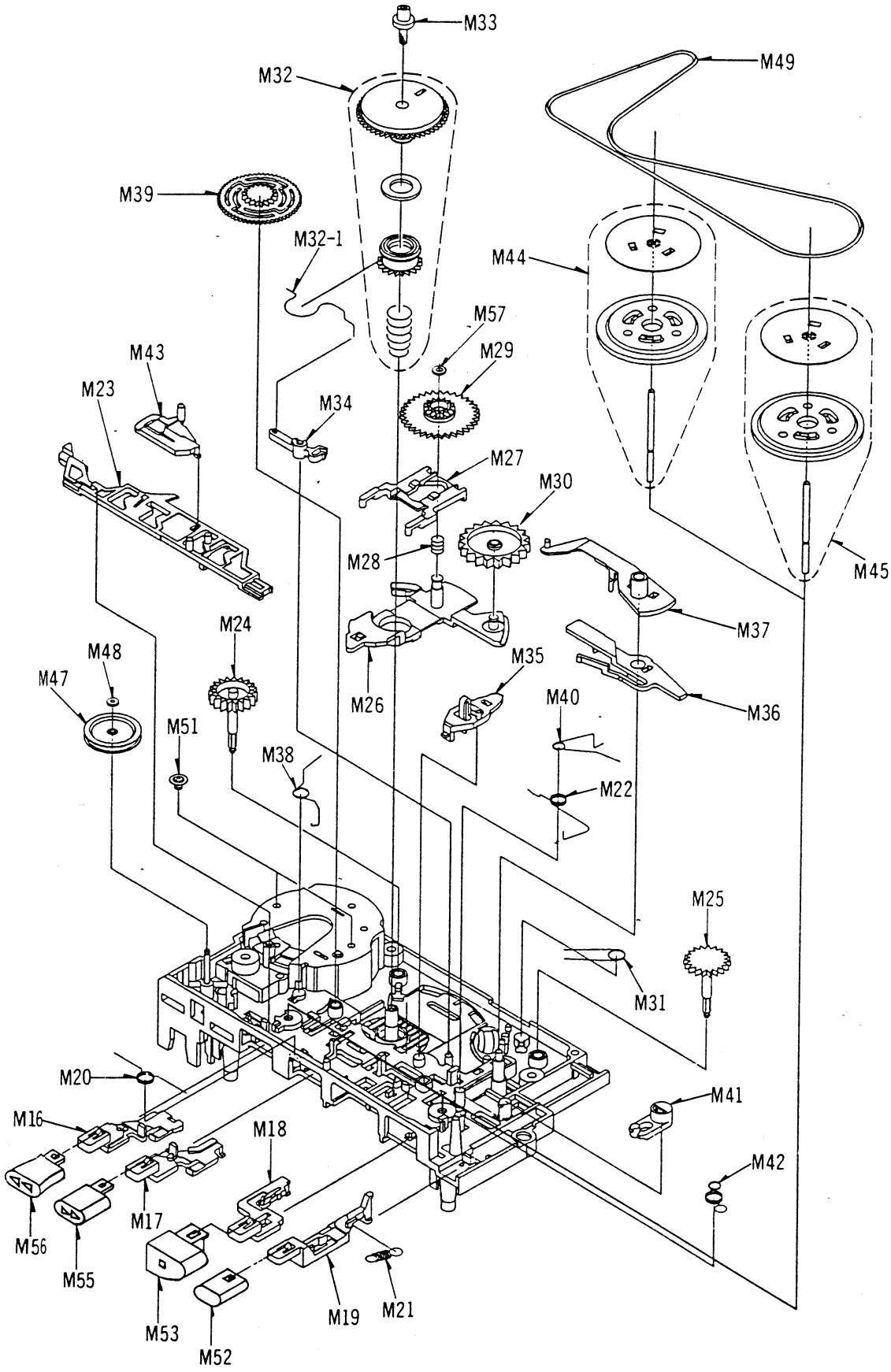
Ref. No.	Parts No.	Parts Name & Description
		MECHANICAL PARTS
M1 T	RFU222ZA	Chassis Ass'y
M2 T	RFY1048ZA	Plate Slide
M3 T	RFY1049ZA	Sub Slide
M4 T	RFU223ZA	Chassis Head
M5 T	RFX184ZA	CAP H
M6 T	RFE586ZA	Guide Tape
M7 T	RFS959ZA	Plate Spring
M8 T	RFH53ZA	Head
M8.1 T	RFA112ZA	Switch Ass'y
M8.2 T	RFE592ZA	Head Wire
M9 T	RFE588ZA	Screw
M10 T	RFR75ZA	Pinch Arm F Ass'y
M10.1 T	RFS960ZA	Spring
M11 T	RFR76ZA	Pinch Arm R Ass'y
M11.1 T	RFS961ZA	Spring
M12 T	RFS962ZA	Spring
M13 T	RFJ101ZA	Reel CAP
M14 T	RFS963ZA	Spring
M15 T	RFS964ZA	Spring
M16 T	RFY1050ZA	Lever FF
M17 T	RFY1051ZA	Lever REW
M18 T	RFY1052ZA	Lever STOP
M19 T	RFY1053ZA	Lever Direction
M20 T	RFS974ZA	Spring
M21 T	RFS966ZA	Spring
M22 T	RFS967ZA	Spring
M23 T	RFY1054ZA	Plate Lock
M24 T	RFG167ZA	Reel Gear
M25 T	RFG168ZA	Reel Gear L
M26 T	RFY1065ZA	ARM TU
M27 T	RFY1056ZA	Lever Wedge
M28 T	RFS968ZA	Spring
M29 T	RFG169ZA	Gear TU
M30 T	RFG170ZA	Gear Idler B
M31 T	RFS969ZA	Spring
M32 T	RFG172ZA	Clutch Ass'y
M32.1 T	RFS970ZA	Spring
M33 T	RFE589ZA	Screw
M34 T	RFY1057ZA	ARM Sensor
M35 T	RFY1058ZA	ARM Change
M36 T	RFY1059ZA	ARM Cancel D
M37 T	RFY1060ZA	ARM Cancel R
M38 T	RFS971ZA	Spring
M39 T	RFG171ZA	Gear Idler A
M40 T	RFS972ZA	Spring Friction
M41 T	RFY1061ZA	ARM Switch
M42 T	RFS973ZA	Spring
M43 T	RFY1062ZA	ARM Switch
M44 T	RFF93ZA	Flywheel F Ass'y
M45 T	RFF94ZA	Flywheel R Ass'y
M46 T	RFN241ZA	Washer
M47 T	RFQ74ZA	Pulley Idler
M48 T	RFN242ZA	Washer
M49 T	RFB123ZA	Belt
M50 T	RFM195ZA	Motor Ass'y
M51 T	RFE590ZA	Screw
M52 T	RGUT0001-K	Direction Knob
M53 T	RGUT0002-K	Button Stop
M54 T	RGUT0003-K	Button Play
M55 T	RGUT0004-K	Button REW
M56 T	RGUT0005-K	Button FF
M57 T	RFN244ZA	Washer

SPECIFICATIONS

Pressure of Pressure roller	160gr
Wow & flutter	Less than 0.5% (WRMS)
Playback torque	20~45gr-cm
FF torque	50~150gr-cm
REW torque	50~150gr-cm

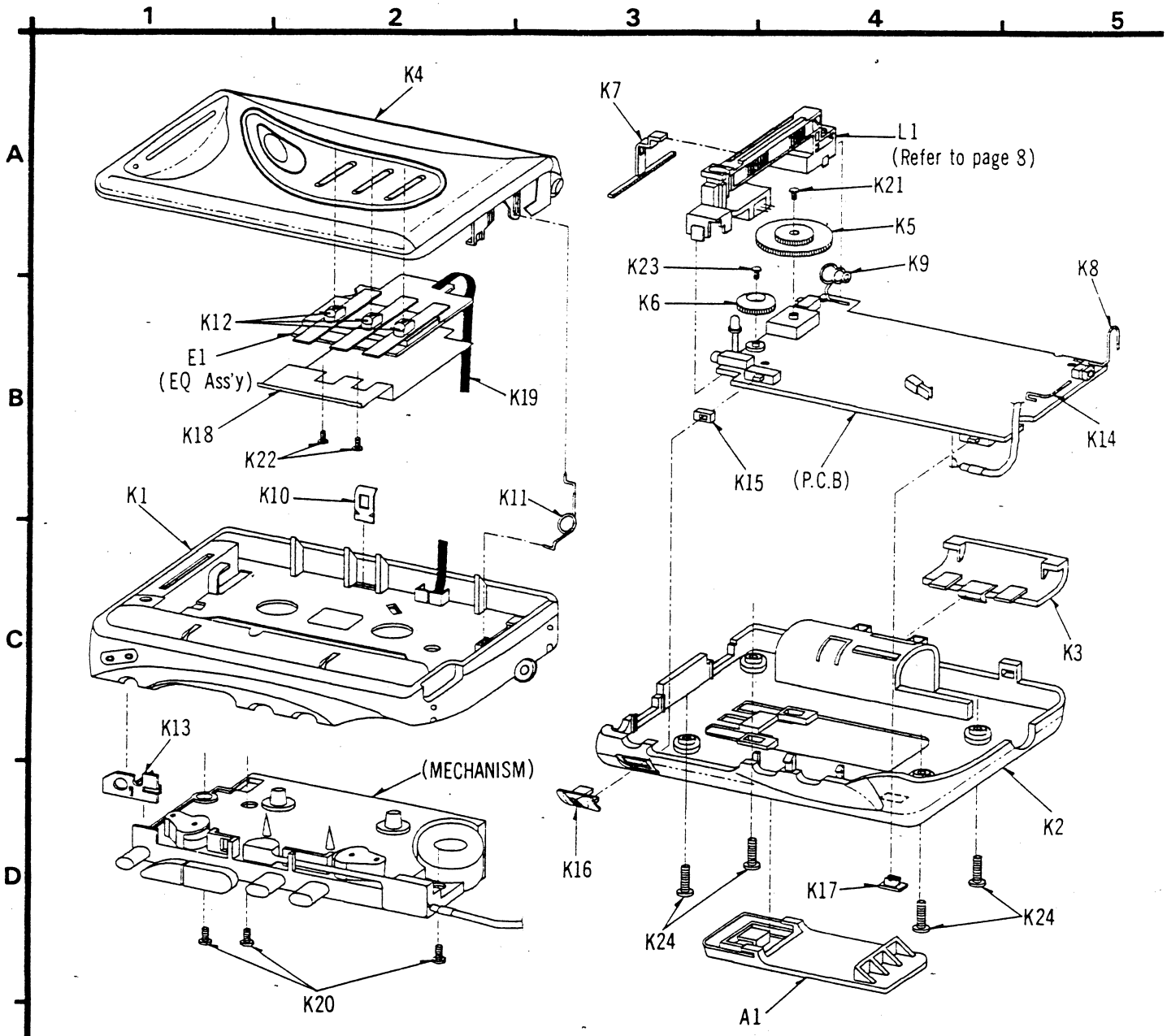
6 7 8 9

(Rear View)



RQ-V161

■ CABINET PARTS LOCATION



■ REPLACEMENT PARTS LIST

T Indicates parts that are supplied by TAMACO

Ref. No.	Parts No.	Parts Name & Description
	CABINET PARTS	
K1 T	**RKMT0005-K**	Front Cabinet
K2 T [E]	**RKST0005B-K**	Rear Cabinet
K2 T [EG]	**RFKKQV161EG**	Rear Cabinet Ass'y
K3 T	**RKKT0003-K**	Battery Cover
K4 T [E]	**RKFT0008B-Q**	Cassette Cover
K4 T [EG]	**RKFT0008C-Q**	Cassette Cover
K5 T	**RGWT0004-K**	Knob, Tuning
K6 T	**RGWT0003-K**	Knob, Volume
K7 T	**RGJT0002-W**	Pointer
K8 T	**RJCT30004**	Battery Terminal (+)
K9 T	**RJCT70004**	Battery Terminal (−)
K10 T	**RMCT0001**	Tape Spring
K11 T	**RMET0005**	Cassette Cover Spring
K12 T	**RBD269TZA0**	EQ Slide Knob
K13 T	**RGQT0001-G**	Direction piece
K14 T	**RMET0002**	PWB Earth Terminal
K15 T	**RMQT0009**	SW,Fixed Piece
K16 T	**RGVT0009-K**	Band Knob
K17 T	**RGVT0010-K**	Tape Selector Knob
K18 T	**RMVT0005-K**	EQ Sheet

Ref. No.	Parts No.	Parts Name & Description
K19 T	**WBE6AH**	6P Wire
K20 T	**RHD003TZA**	Screw
K21 T	**XSH17+3**	Screw
K22 T	**XTNR14+3.5CF**	Screw
K23 T	**XSH14+4**	Screw
K24	**XTNR2+10CFZ**	Screw
	ACCESSORY	
A1 T	**RKE210TZA-1**	Belt Clipper
A2 T	**RP-HT103PY-Y**	Headphones
A3 T	**RQTT0062-E**	Instruction Manual
	PACKING MATERIALS	
P1 T	**RPNT0053**	Blister (Rear)
P2 T	**RPNT0054**	Blister (Front)
P3 T	**RPKT0024**	Decoration Box
P4 T	**RPFT0001**	Polyethylene Cover

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